

Response to Administrative Law Judges  
On the Record Data Request to ICC Staff on August 16, 2001  
Docket Nos. 01-0120

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I.C.C. DOCKET NO. 01-0120

Group

Exhibit No. 1

**Administrative Law Judges On the Record Data Request**

Witness

8-21-01

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During the hearings held in Docket 01-0120 on August 16, 2001, ALJ Haynes posed a series of questions regarding the calculation of remedies for benchmark measures proposed in my testimony. In addition to her questions, ALJ Haynes also provided a written example to demonstrate the mathematical consequences of her questions. (See Attachment 1 for a reproduction of the written example.) I appreciate the opportunity, granted by the ALJs in this case, for all of the parties to provide a written response to these questions. This document contains my response to the questions posed by ALJ Haynes and a written review of the example provided during the hearing on August 16, 2001.

ALJ Haynes posed a two-fold question. A summary of that question, with a brief response, appears below:

1) Would Ameritech have to pay lower remedies if benchmark measures were subjected to a bright-line standard, as proposed in the direct testimony of Melanie K. Patrick? (see transcript p. 221, lines 7-10, and p. 222, lines 6-10)

**Staff response: No, Ameritech would not have to pay lower remedies under the proposed modifications to the Ameritech remedy plan**

2) Can the modifications Staff proposes to the Ameritech remedy plan be readily implemented? (see transcript p. 220, lines 8-12, and p. 218, lines 11-13)

**Staff response: Yes, the modifications proposed by Staff to the Ameritech remedy plan can be readily implemented.**

Attachment 2 contains a detailed response to each of the items contained in the example provided by Judge Haynes. Moreover, all other possible calculations necessary to take into account the modifications to the Ameritech remedy plan proposed in my direct testimony were performed by Ameritech in response to Staff data requests. See, AI Responses to MKP19-MKP24. To

summarize Staff's response to Judge Haynes second question, Staff does not believe that Ameritech would, if the bright line methodology were adopted, calculate remedies according to the formula presented in C.1 (see Attachment 1). Instead, Staff believes that, for the particular example provided, Ameritech would calculate remedies for poor service by simply comparing their performance to the benchmark itself, and then applying the remaining steps as currently specified in their remedy plan (see Attachment 2, regarding item C.1).

My reasoning is based on the following. As specified in my direct testimony, on lines 1008 to 1012, I note the following objection to the treatment of benchmark standards in the Ameritech remedy plan:

Second, the proposal for statistical testing for benchmark measurements requires the comparison of some test statistic to some critical value. The comparison of a test statistic to the critical values table in this way creates a "zone" or allowance for not reaching the benchmark standard. Ameritech can be allowed to pass a benchmark test even if the benchmark standard is not reached.

To expand upon this point, there would be no need to compare the test statistic to the critical value if my recommendation for bright line treatment of benchmark measures is adopted. For this reason, there is no need to rely on the critical values table for calculation of penalties. In fact, there would no critical z-statistic available or associated with any of the benchmark tests. While this point may not have been specified explicitly in my direct testimony, I appreciate the opportunity to add this clarification at this time.

Corrections to the table presented in D.1. appear below. For the Ameritech remedy plan, each case (Cases 1-4) is assessed using critical values of 1.65, 1.96, and 2.44. The first two values, 1.65 and 1.96, represent the boundaries of the range of the most frequently applied critical values. The cases are also assessed using 2.44, the most extreme critical value available under the Ameritech remedy plan. These assessments are done to assess this example under the Ameritech remedy plan, as proposed in this docket. Remedies under "Staff's Modified AI Plan" reflect the steps outlined in C.1., below (see Attachment 2).

Case Number	CLEC Proportion	<u>Ameritech Plan</u> Critical Value			Staff Plan	<u>Remedy Under Amer. Plan</u> Critical Value			Remedy Under Staff Plan
		1.65	1.96	2.44		1.65	1.96	2.44	
Case 1	90%	Fail	Fail	Fail	Fail	\$2,000	\$2,000	\$1,500	\$2,500
Case 2	93%	Fail	Fail	Pass	Fail	\$500	\$500	\$0	\$1,000
Case 3	94%	Pass	Pass	Pass	Fail	\$0	\$0	\$0	\$500
Case 4	97%	Pass	Pass	Pass	Pass	\$0	\$0	\$0	\$0

Overall, Example 1 highlights the uncertain results obtained under the Ameritech remedy plan. Depending on the critical value applied to benchmark tests, Ameritech may pass or fail the test even when testing the same performance level. Further, the remedy amounts under the existing Ameritech remedy plan will vary, depending on the critical value used. Note that all

positive remedy amounts reflected in the table above could be “zeroed out,” if the k-exclusions currently in place under the Ameritech remedy plan were applied to that particular test. Given that most benchmark tests under the current plan are deemed to be “low,” Ameritech is more likely to exclude those measures when applying the k-exclusions, and may never pay remedies for that failure to provide adequate service. These uncertainties are removed under Staff’s modifications related to the treatment of benchmark tests, which propose a bright-line treatment for all benchmark tests.

**Example 1**

- A.1) Under the Ameritech remedy plan, Ameritech fails if the benchmark testing for the proportion benchmark if and only if:

$$\text{CLEC Proportion} < \text{Benchmark} - \frac{\text{"z critical value"}}{100}$$

- A.2) Under Staff's proposed benchmark testing, Ameritech fails the benchmark tests if and only if:

$$\text{CLEC Proportion} < \text{Benchmark Proportion}$$

- B.1) Let's look at the following specific example:

Benchmark Proportion = 95%

"z critical value" = 2 ( $\Rightarrow$  "Calculated Proportion" = 93%)

Per occurrence remedy = \$500

CLEC data points = 100

- C.1) Based on Ameritech's calculation of remedy, the formula for calculating remedy in this particular example is (assuming the "per occurrence" remedy is \$500):

$$[(93\% - \text{CLEC Proportion}) \times 100] \times 500$$

- D.1) Let's look at the following four typical cases:

(Assuming the "per occurrence" remedy is \$500)

Case Number	CLEC Proportion (Prop)	Ameritech Plan	Staff Plan	Remedy under Ameritech Plan	Remedy under Staff's Modified AI Plan
Case 1	90%	Fail	Fail	\$1,500	\$1,500
Case 2	93%	Pass	Fail	\$0	\$0
Case 3	94%	Pass	Fail	\$0	-\$500
Case 4	97%	Pass	Pass	\$0	\$0

**Example 1**

- A.1) Under the Ameritech remedy plan, Ameritech fails if the benchmark testing for the proportion benchmark if and only if:

$$\text{CLEC Proportion} < \text{Benchmark} - \text{"z critical value"}/100$$

**Staff assessment:**

This equation represents an interpretation of the Ameritech remedy plan. It combines two steps into one equation, as follows. In the Ameritech remedy plan, the test statistic itself is first calculated, and then is compared to a critical value taken from the critical values table (or "critical z-value").<sup>1</sup>

In general, Ameritech Illinois only fails tests when its calculated z-statistic is greater than the critical value selected from its critical values table. According to Dr. Levy's rebuttal testimony, the "modified z-statistic" for benchmarks is created by first substituting 1 for the z-test denominator, then substituting the benchmark standard wherever Ameritech performance data is required in their modified z-test calculations, and then multiplying the result by 100, yielding, for proportions:

$$\text{Benchmark z-statistic} = (\text{benchmark} - \text{avg. proportion CLEC}) * 100$$

This calculated z-statistic is then compared to the critical value selected from the critical values table, as described in Section 3.0 (attachment to Ameritech witness Sal Fioretti direct testimony, or remedy plan filed in this docket). Failure occurs if the calculated z-statistic is greater than the critical z-value taken from the critical values table. If you manipulate the benchmark modified z-statistic, as described in Dr. Levy's testimony, and its comparison to the critical z-value, you can create the equation presented in A.1., above.<sup>2</sup>

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<sup>1</sup> As I noted in my direct testimony, the description of the Ameritech remedy plan, as filed in this docket, contains gaps regarding how benchmark tests are performed. (Staff witness Dr. Melanie K. Patrick direct testimony at lines 913-919) In Dr. Levy's rebuttal testimony, on pp. 22-23, he provides more descriptive detail regarding how the benchmark measures are treated in accordance with the performance test, in relation to the critical value table.

<sup>2</sup> The phrase "if and only if," however, is too restrictive. For example, there are a few performance measurements that have associated benchmarks that do not allow a "critical z-allowance" (see Illinois Disaggregation Schedule, Attachment to Joint Petition filed February 5, 2001).

**A.2)** Under Staff's proposed benchmark testing, Ameritech fails the benchmark tests if and only if:

$$\text{CLEC Proportion} < \text{Benchmark Proportion}$$

**Staff assessment:**

This equation represents an acceptable interpretation of the proposals set out in Staff testimony.

**B.1) Let's look at the following specific example:**

Benchmark Proportion = 95%  
"z critical value" = 2 ( $\Rightarrow$  "Calculated Proportion" = 93%)  
Per occurrence remedy = \$500  
CLEC data points = 100

**Staff assessment:**

For the reasons set forth below, this set of circumstances is, overall, very unlikely.

1) There are benchmark proportions set at 95%. This example does not specify whether Tier 1 or Tier 2 remedies should be calculated. However, it appears that this example is addressed to the instructions for calculating Tier 1 remedies.

2) Under the existing Ameritech remedy plan, the critical values, presented in their critical values table, range from 1.65 to 2.44. The critical value is never exactly 2. (See Critical Z-statistic Table, pp. 11-12, Attachment 2 to Direct Testimony of Mr. Salvatore Fioretti) In my direct testimony, I noted that values between 1.65 and 1.96 are used in the vast majority of cases (lines 743-745).

3) Under the existing Ameritech remedy plan, per occurrence remedies of \$500 are never payable for measures designated as "low." For Tier 1 measures, per occurrence remedies at this level are only available for "medium" measures in the 5<sup>th</sup> month of failure, or "high" measures in the third month of failure.<sup>3</sup> (See Liquidated Damages Table for Tier-1 Measures, p. 10 of Ameritech Remedy Plan, Attachment 2 to Direct Testimony of Mr. Salvatore Fioretti)

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<sup>3</sup> For Tier 2 measures, per occurrence remedies of \$500 are only available for measure designated as "high."

**C.1)** Based on Ameritech's calculation of remedy, the formula for calculating remedy in this particular example is (assuming the "per occurrence" remedy is \$500):

$$[(93\% - \text{CLEC Proportion}) \times 100] \times 500$$

**Staff assessment:**

As noted in C.1., this formula condenses several steps. To respond to the cases set out in D.1., below, I will review the specific steps needed. For each step, I provide a description of the step, a statement of the formula for the step (in bold), and a re-statement of the formula using the values provided in B.1. (also in bold).

*Ameritech Plan*

As specified in Section 11.1.2.2, on p. 15 of Attachment 2 to Mr. Fioretti's direct testimony, Step 1 demonstrates how a "calculated percentage" is determined. For proportion benchmarks, this amount is the difference between the critical z-value divided by 100, taken from the critical values table, and the benchmark.

**Step 1:            "calculated percentage" = benchmark – critical z/100**

$$\text{"calculated percentage"} = 95\% - \text{critical z}/100$$

In Step 2, the difference between the actual percentage (or performance) for the CLEC and the "calculated percentage" needs to be determined.

**Step 2:            (result of step 1) – CLEC performance**

$$(95\% - \text{critical z}/100) - 93\%$$

Continuing with the instructions set out in Section 11.1.2.2, Step 3 contains the following instructions: multiply the result of step 2 by the number of data points, and round this amount up to the next integer. (Note that this step always results in rounding up to the next integer, and does not allow for rounding down.) Then multiply this result by the per occurrence dollar amount.

**Step 3:            {"ROUND-UP" (result of step 2)x(data points)} x per occurrence \$amt**

$$\{\text{"Round-up"} (95\% - \text{critical z}/100 - 93\%) \times (100)\} \times \$500$$



Staff modification to Ameritech Plan

Using the steps outlined for Tier 1 Liquidated damages for Percentage Measures provided in Section 11.1.2.2 of the Ameritech remedy plan (see p. 15, Attachment 2, Direct Testimony of Sal Fioretti), calculations for benchmark measures under the Staff modifications are as follows.

**Step 1:           not needed (no comparison to critical z-value)**

**(Calculated percentage = benchmark standard = 95%)**

In Step 2, the difference between the actual percentage (or performance) for the CLEC and the benchmark would be determined.

**Step 2:           benchmark – CLEC performance**

**(95%– CLEC performance)**

Step 3 contains the following instructions: multiply the result of step 2 by the number of data points, and round this amount up to the next integer. (Note that this step always results in rounding up to the next integer, and does not allow for rounding down.) Then multiply this result by the per occurrence dollar amount. The following formula is identical to the formula used in the Ameritech remedy plan for Step 3.

**Step 3:           {"ROUND-UP" (result of step 2)x(data points)} xper occurrence \$amt.**

**{"Round-up" (95%-CLEC performance)x(100)} x 500**

Note that any "correction" needed to the description of the plan, or the tariff, would take place in Steps 1 and 2. Specifically, instead of a "calculated percentage" (result of step 1), only the benchmark would be applied in Step 2. This modification is currently adopted in practice, according to the document "Ameritech Remedy.doc," provided by Ameritech pursuant to Staff Data Request MKP1.<sup>4</sup>

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<sup>4</sup> This document was further clarified pursuant to Staff DR Questions MKP25, MKP27, MKP28, MKP29, MKP30, MKP31, MKP32, MKP33. See p. 8 of the revised version of Remedy.doc, included in the 2<sup>nd</sup> DR responses provided by Ameritech Illinois.

**D.1) Let's look at the following four typical cases:**

(Assuming the "per occurrence" remedy is \$500)

**Staff assessment:**

Table D.1 (corrected)

Case Number	CLEC Proportion	<u>Ameritech Plan</u> Critical Value			Staff Plan	<u>Remedy Under Amer. Plan</u> Critical Value			Remedy Under Staff Plan
		1.65	1.96	2.44		1.65	1.96	2.44	
Case 1	90%	Fail	Fail	Fail	Fail	\$2,000	\$2,000	\$1,500	\$2,500
Case 2	93%	Fail	Fail	Pass	Fail	\$500	\$500	\$0	\$1,000
Case 3	94%	Pass	Pass	Pass	Fail	\$0	\$0	\$0	\$500
Case 4	97%	Pass	Pass	Pass	Pass	\$0	\$0	\$0	\$0

Case 1: CLEC performance at 90 % fails under either option. Remedy under the Ameritech plan will depend on the critical value chosen. Remedy paid could be zero, if this failed test is deleted due to the "k-exclusions". Remedy for the Staff modified plan would be \$2,500.

Case 2: CLEC performance at 93% could pass or fail the Ameritech test, depending on the critical value applied (i.e., 1.65, 1.96, 2.44). Even if the test fails, and the Ameritech remedy plan results in a calculated remedy, this failed test could result in zero penalties if it is excluded according to the k-exclusions. Under Staff's modification, applying the bright-line test, the CLEC performance at 93% would fail, and the remedies would be \$1,000.

Case 3: CLEC performance at 94% would pass the Ameritech plan, resulting in no penalties. Under Staff's modification, this performance would fail the benchmark test, and the resulting remedy would be \$500.

Case 4: CLEC performance at 97% would pass under both the Ameritech remedy plan and the Staff modified remedy plan.

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Finally, for Cases 1-4, the following is an assessment of the likelihood of the penalties reflected in Table D.1. (corrected), above. As noted in B.1, above, per-occurrence remedies of \$500 are unlikely under the existing Ameritech remedy plan for benchmark measurements. As each case assessment notes, given the existence of the "k-exclusions," even calculated penalties can be excluded (not paid) under the existing Ameritech remedy plan.

However, under the Staff proposal, the combination of 1) adopting a "bright-line" standard for all benchmark tests, 2) making all performance measurements of equal, "high" importance, and 3) tripling all penalty amounts, all contribute to making the final column in Table D.1 (corrected) very likely.

### AT&T Comments on Example 1

In Example 1 Staff's proposal to calculate remedies for benchmarks using a "bright-line" approach may be incorrectly applied, which inadvertently leads to a negative remedy for a failed submeasure.

Although Staff's proposal is properly described in step A.2), it is fundamentally different from Ameritech's proposal in A.1). The use of the remedy calculation in C.1) applies to Ameritech's limited liability proposal in A.1) and is plainly incorrect for use with Staff's proposal.

For the specific example in B.1), which is based on a 95% benchmark proportion, the proper remedy should be calculated from the analogous formula below:

$$[(95\% - \text{CLEC Proportion}) \times 100] \times 500$$

In comparison to previous incorrect formula in Example 1, note that the above formula uses the actual benchmark proportion of 95%, as proposed by Staff, instead of the improper use of 93% as written in C.1). This improper 93% proportion equals the actual benchmark minus a statistical "zone" or allowance of 2 more percentage points for a so-called "z critical value." Staff has recommended against this additional allowance. By applying the proper formula above, the correct table that should appear in D.1) is given by:

Case Number	CLEC Proportion (Prop)	Ameritech Plan	Staff Plan	Remedy Under Ameritech Plan	Remedy Under Staff's Modified AI Plan
Case 1	90%	Fail	Fail	\$1,500	\$2,500
Case 2	93%	Pass	Fail	\$0	\$1,000
Case 3	94%	Pass	Fail	\$0	\$500
Case 4	97%	Pass	Pass	\$0	\$0

Any semblance of inconsistency has disappeared. There are, however, fundamental problems that remain in the proposals above.

AT&T, like Staff, recommends a "bright-line" approach. However, AT&T does not agree with the use of the so-called "per-occurrence" methodology advocated by Ameritech (but not specifically supported by Staff in their testimony) because it does not generate sufficient remedies when sample sizes are small. Basing remedies on sample size of necessity will generate small amounts when competition is in its embryonic stage or when new services are involved. A sample of 100 for a CLEC, as used in Example 1, might in some circumstances be considered a small number of transactions (e.g., number of new POTS orders in a month). In other cases it might be a large number of transactions (e.g., rural DSL troubles). Therefore, we here also calculate the "bright-line" remedies under the CLEC plan for Example 1. The results are shown in the table below represent a more appropriate level of remedy:

Case Number	CLEC Proportion (Prop)	CLEC Plan	Remedy Under CLEC Plan
Case 1	90%	Fail	\$25,000
Case 2	93%	Fail	\$6,100
Case 3	94%	Fail	\$3,400
Case 4	97%	Pass	\$0

These remedy amounts will clearly incent Ameritech to improve service. The other proposals can easily be viewed by Ameritech as a "cost of doing business" to maintain its monopoly power.

Witness Responsible: Michael Kalb, Ph.D.

**Response to Administrative Law Judges  
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Docket Nos. 01-0120**

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**Administrative Law Judges On the Record Data Request**

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During the hearings held in Docket 01-0120 on August 16, 2001, ALJ Haynes posed a series of questions regarding the calculation of remedies for the bright line benchmark testing methodology proposed in Dr. Patrick's testimony. Dr. Patrick has responded, and we generally agree with her calculations (although, as previously stated in testimony, Ameritech does not agree with the underlying bright line methodology, since it fails to address the random variation that exists in all performance, whether the measurement data is compared to benchmarks or to a retail analog). This document responds to and clarifies certain aspects of Dr. Patrick's reply.

ALJ Haynes posed the following questions.

- 1) Would Ameritech have to pay lower remedies if benchmark measures were subjected to a bright-line standard, as proposed in the direct testimony of Melanie K. Patrick? (see transcript p. 221, lines 7-10, and p. 222, lines 6-10)

Staff response: No, Ameritech would not have to pay lower remedies under the proposed modifications to the Ameritech remedy plan.

*Ameritech agrees with the evaluation provided by Dr. Patrick.*

- 2) Can the modifications Staff proposes to the Ameritech remedy plan be readily implemented? (See transcript p. 220, lines 8-12, and p. 218, lines 11-13)

Staff response: Yes, the modifications proposed by Staff to the Ameritech remedy plan can be readily implemented.

*Ameritech agrees it would not be difficult to implement this method.*

Dr. Patrick also presented an answer for the example provided by ALJ Haynes during the hearing. Although Ameritech agrees with the calculations offered by Dr. Patrick in terms of the remedy amounts payable under the Staff proposal, we consider it necessary to clarify and comment on the following points:

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- Dr. Patrick discusses the application of the k-table and the possibility that remedy amounts could be "zeroed out" if that table is retained. The apparent intent of this discussion is to argue that the existing K-table should be eliminated. Ameritech disagrees with that argument, but the issue is irrelevant to the question posed by ALJ Haynes. The K-table is designed to address random error in the aggregate, over the large number of performance tests that are conducted each month. The examples posed by ALJ Haynes, and addressed by Dr. Patrick, involve a single performance test.
- Dr. Patrick suggests that most benchmark tests under the current plan are prioritized as "low" measures and therefore more likely to be subject to the K-table. This is not coincidental, as it is a reflection that benchmark measures typically reflect sub-processes that have no retail analog, and therefore are compared to a benchmark. Overall processes have retail analogs, and are subject to a "parity" standard. They receive a higher priority because they more closely relate to the end results that customers notice, as opposed to intermediate steps. Thus, although Dr. Patrick's statement is generally true, it is irrelevant to the questions posed, and we do not want the ALJs to take the impression (which we would believe to be mistaken) that Dr. Patrick's statement suggests some problem with either the K table or the priority weightings in the existing plan
- The examples provided by Dr. Patrick assess scenarios utilizing critical values of 1.65, 1.96, and 2.44. While these are possible examples, they rarely occur in practice, since these critical values are used only when a CLEC has less than eight tests (sub-measures). Additionally, contrary to Dr. Patrick's evaluation, if this situation were to occur, the k-table would not be used. (In other words, K is 0 when there are fewer than 8 tests, because the K table is designed to address the accumulation of random error over a large number of performance tests). In almost all instances, the critical values under the existing remedy plan are less than or equal to 1.81.

To summarize Ameritech's position, we agree that the calculations documented by Dr. Patrick accurately portray the way her "bright-line" proposal would work. We respectfully disagree with the "bright-line" methodology for evaluating benchmark standards and with her other proposed modifications to Ameritech's existing remedy plan.